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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,102	01/28/2004	Mu Gyeom Kim	6661-000019/US	9719

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HARNESS, DICKEY & PIERCE, P.L.C.
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RESTON, VA 20195

EXAMINER

ROJAS, OMAR R

ART UNIT	PAPER NUMBER
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2874

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/765,102

Applicant(s)

KIM ET AL.

Examiner

Omar Rojas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08/11/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: Detailed Action.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the cycle or pattern (claim 9); the means for varying the total intensity of the signals (claim 10); and the means for offsetting the signals (claim 10) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because it contains more than 150 words.

Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities: On page 3, paragraph [0007] of the specification, the terms "50□" and "300□" do not appear to contain valid units of measurement.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-8 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,418,869 to Seike et al. ("Seike") in view of Patent No. 5,463,706 to Dumont et al. ("Dumont").

In re claims 1 and 12, Seike discloses an optical link (Figure 1-3) using an optical fiber 13, comprising:

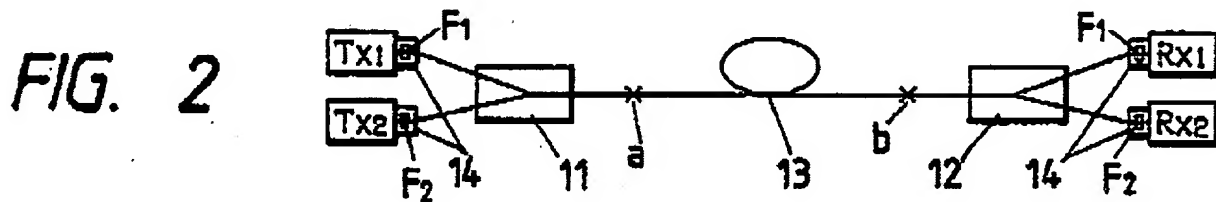
a plurality of the light sources TX1 and TX2 for emitting light having different wavelengths in order to output a plurality of optical signals (col. 5, lines 2-8);

Seike inherently comprises a first driver for receiving digital or analog signals and a coloring signal in parallel and converting the received signals into the plurality of optical signals through the plurality of light sources because the light sources TX1 and TX2 have the same physical structure to that claimed and perform in substantially the same manner (i.e., they produce different wavelengths);

a first coupler 11 for inputting the plurality of the optical signals received from the plurality of the light sources into the optical fiber 13; the optical fiber 13 having one end connected to the first coupler 11 and the other end connected to a second coupler 12,

said second coupler 12 being provided for separating the optical signal transmitted from the optical fiber into a plurality of optical signals and respectively inputting the optical signals into a plurality of optical filters F1 and F2 for separating the received optical signal into a plurality of signals according to wavelengths; and

a second driver RX/RX2 for receiving the optical signals from the optical filters and converting the receiving optical signals into electrical signals. Figure 2 of Seike is reproduced below.



Thus, Seike only differs from claims 1 and 12 in that Seike does not disclose that his optical fiber 13 is plastic and has a transparent jacket. Dumont, on the other hand, discloses a plastic optical fiber 22 having a transparent jacket 26/28. See Dumont at col. 3, line 48 to column 4, line 26. The motivation for combining Dumont with Seike is to permit easy identification of the optical conduit. See Dumont at col. 2, lines 15-24. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 1 and 12.

In re claim 2, the number of light sources used in Seike is inherently the same as the number of electrical signals inputted in parallel into the first driver because the physical structure of Seike's light sources is identical to that claimed. Therefore, it would have also been obvious to one of ordinary skill at the time of the claimed invention to obtain the invention specified by claim 2 in

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view of Seike combined with Dumont for the same reasons mentioned with respect to claims 1 and 12.

In re claim 3, LEDs, LDs, RCLEDs and VCSELs were all well-known, conventional light sources at the time of the applicant's claimed invention. LEDs would have been desirable to use in Seike because they were known to be relatively cheap light sources. VCSELs would have been desirable to use in Seike because they were known to have low beam divergence. Therefore, it would have also been obvious to one of ordinary skill at the time of the claimed invention to obtain the invention specified by claim 3 in view of Seike combined with Dumont as applied to claims 1 and 12, and further in view of common knowledge in the art.

In re claims 4-6, the additional structural features recited by these claims are shown in Figures 5A-5C of Seike as described at column 6, lines 8-21. The optical fibers shown by Seike in Figs. 5A-5C are inherently polished because they have the same physical structure as the claimed optical fibers. Therefore, it would have also been obvious to one of ordinary skill at the time of the claimed invention to obtain the invention specified by claims 4-6 in view of Seike combined with Dumont for the same reasons mentioned with respect to claims 1 and 12.

In re claim 7, the optical fiber 22 of Dumont is inherently capable of having a high optical loss so as to emit a large amount of light to the outside when it has a short transmission distance because the optical fiber 22 of Dumont has an identical structure to the claimed optical fiber. Therefore, it would have also been obvious to one of ordinary skill at the time of the claimed

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invention to obtain the invention specified by claim 7 in view of Seike combined with Dumont for the same reasons mentioned with respect claims 1 and 12.

In re claim 8, applicant is claiming the product including the process of making the optical fiber, and therefore are of “product-by-process” nature. The courts have been holding for quite some time that: the determination of the patentability of product-by-process claim is based on the product itself rather than on the process by which the product is made. *In re Thorpe*, 77 F. 2d 695, 227 USPQ 964 (Fed. Cir. 1985); and patentability of claim to a product does not rest merely on a difference in the method by which that product is made. Rather, it is the product itself which must be new and unobvious. Applicant has chosen to claim the invention in the product form. Thus a prior art product which possesses the claimed product characteristics can anticipate or render obvious the claim subject matter regardless of the manner in which it is fabricated. A rejection based on 35 U.S.C. section 102 or alternatively on 35 U.S.C. section 103 of the status is eminently appropriate and acceptable. *In re Brown and Saffer*, 173 USPTQ 685 and 688; *In re Pilkington*, 162 USPQ 147.

As such no weight is given to the process steps recited in claim 8.

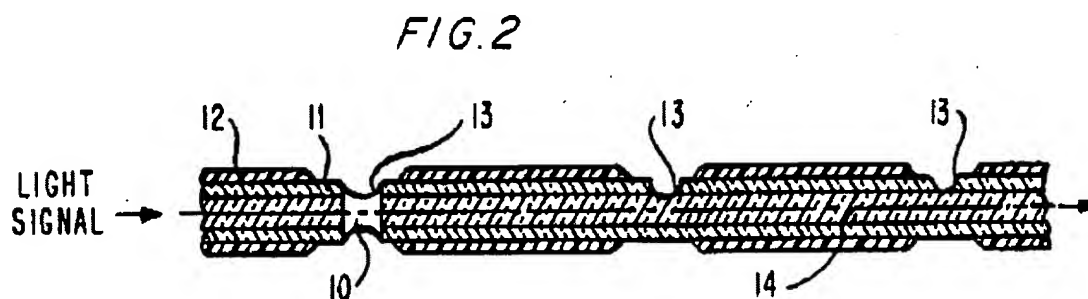
In re claim 10, the device of Seike discloses additional filters F1 and F2 which vary the total intensity of the signals transmitted by the light sources TX1 and TX2 as easily seen in Figure 2 of Seike, reproduced above. Therefore, it would have also been obvious to one of ordinary skill at the time of the claimed invention to obtain the invention specified by claim 11 in view of Seike combined with Dumont for the same reasons mentioned with respect to claims 1 and 12.

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In re claim 11, the device of Seike is inherently capable of performing the recited function because the light sources of Seike have the same physical structure to that claimed. Therefore, it would have also been obvious to one of ordinary skill at the time of the claimed invention to obtain the invention specified by claim 11 in view of Seike combined with Dumont for the same reasons mentioned with respect to claims 1 and 12.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seike in view of Dumont as applied to claim 1 above, and further in view of Patent No. 4,676,594 to Presby.

In re claim 9, Seike in view of Dumont only differs from claim 9 in that neither reference teaches a contact area between the jacket and the optical fiber having a cycle or pattern so that light is emitted periodically or in pattern. Presby, on the other hand, teaches a contact area between a jacket 12 and an optical fiber 10/11 having a cycle or pattern 13 so that light is emitted periodically or in pattern. Figure 2 of Presby is reproduced below.



The motivation for combining Presby with Seike and Dumont would have been to avoid any deviation in transmission characteristics at various points along the fiber and provide for the propagation of all the possible modes. See Presby at column 1, lines 15-20. Therefore, it would

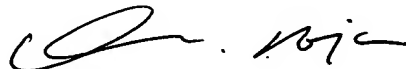
have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claim 9 in view of Seike combined with Dumont and Presby.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357. The examiner can normally be reached on Monday-Friday (9:00PM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick, can be reached on (571) 272-2344. The official facsimile number for regular and After Final communications is (571) 273-8300. The examiner's RightFAX number is (571) 273-2357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Omar Rojas
Patent Examiner
Art Unit 2874

or
April 2, 2007



SUNG PAK
PRIMARY EXAMINER